

# A NEW ACANTHOCEPHALAN FROM AN EAST AFRICAN GALLIFORM BIRD

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### 1. SYNOPSIS

A new species of acanthocephalan, *Mediorhynchus selengensis*, is described from the yellow-necked spurfowl (*Pternistes leucoscepus*) in Kenya, and its relationship to other species of *Mediorhynchus* discussed. A brief discussion on the relationship between the genera *Empodius*, *Empodisma* and *Mediorhynchus* is also given.

### 2. INTRODUCTION

THE worms to be described in this paper were amongst a collection of helminths submitted for identification by Mr. John E. Cooper of the Veterinary Research Laboratory, Kabete, Kenya. Thirty-two specimens were obtained from the intestine of yellow-necked spurfowl (*Pternistes leucoscepus*) at Selengai in Kenya. The worms belong to the family Gigantorhynchidae Hamann, 1892, the members of which occur in birds and mammals.

### 3. DESCRIPTION

#### *Mediorhynchus selengensis*, sp. n.

(Figs 1-4)

The male worm measures 11.6-43.0 mm in length and 0.80-2.24 mm in maximum width; females, 11.3-91.5 mm and 0.70-2.75 mm, respectively. The body is fairly long, pseudosegmented in mature specimens, with the anterior portion slightly thinner than the remainder of the body.

The proboscis is cylindrical and composed of an anterior region bearing hooks and a posterior part armed with spines (fig. 1). It was found extruded in only 7 of the specimens, and in these it measures 0.41-0.86 mm in length and 0.35-0.59 mm wide at the base. The hooks are stout and strong with a sharply-curved point, those on the anterior surface of the proboscis being slightly smaller than the remainder (fig. 2). There are 20-22 longitudinal rows of 4-5 hooks. The blades of the hooks measure 0.04-0.07 mm from their base to uppermost point. The base is distinctively winged

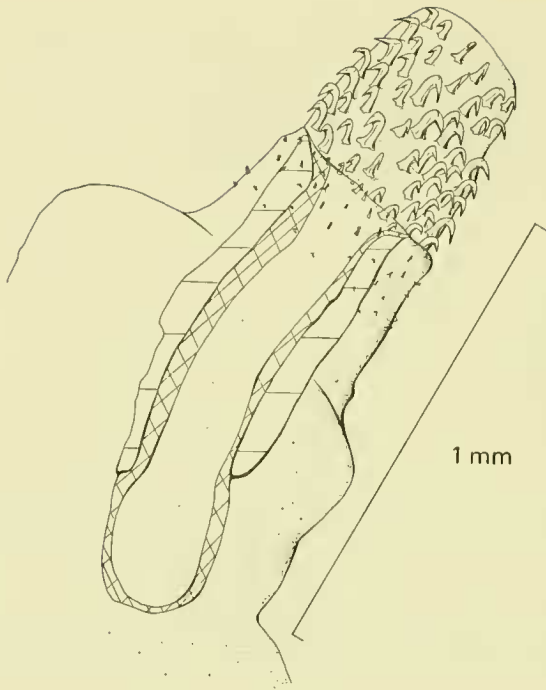


FIG. 1. Anterior region of *Mediorhynchus selengensis*

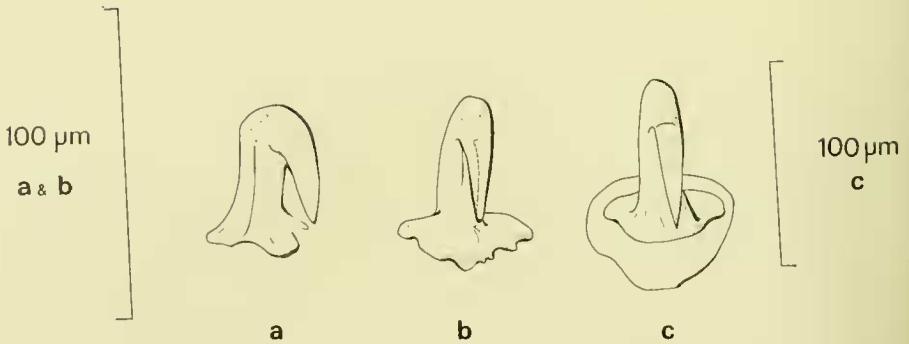


FIG. 2. a, b, c. Large hooks from the anterior part of the proboscis of *Mediorhynchus selengensis*

and surrounded by a strengthening basal-plate on the surface of the proboscis (fig. 2, b and c). The spines form 26-30 longitudinal rows of 2-3 each and their length from base to tip varies between 0.014-0.033 mm. There is a fairly rapid gradation in the size and the shape of the spines, those in the anterior rows being similar in shape to a bill-hook, but more slender, and the form of the posterior spines being almost mere pointed stumps.

The proboscis-sheath is sac-like, but divided into two parts; the anterior portion consisting of a thin, inner layer of longitudinal muscle and a thick outer wall of circular muscle, while the posterior portion has no such outer wall (fig. 1). The entire sheath measures 0.64-1.8 mm in length and 0.11-0.35 mm at its widest point. The nerve-ganglion lies very near to the centre of the sheath. The lemnisci are

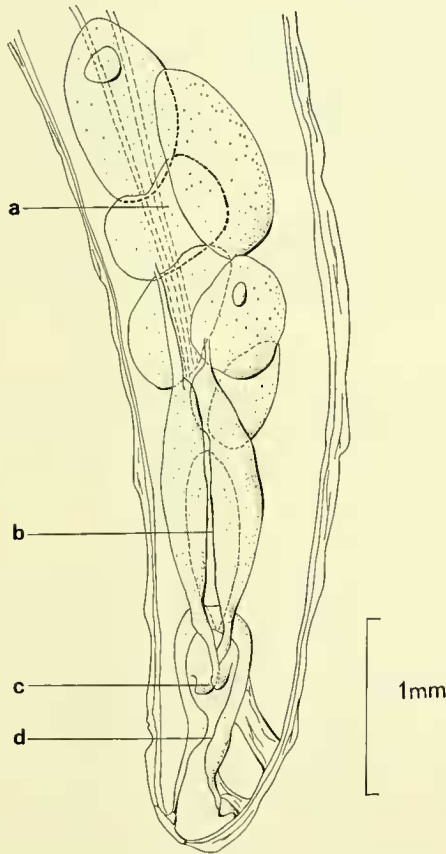


FIG. 3. The male reproductive system of *Mediorhynchus selengensis*. a, cement glands; b, Saeftigen's pouch; c, penis papilla; d, bursa.

slender and often slightly coiled around each other, occupying  $1/7-1/18$  of the length of the body and measuring 1.6-4.9 mm in length and 0.30-0.32 mm wide.

In the male there are two elongate-oval testes situated in the posterior third of the body, measuring 0.9-4.1 mm in length and 0.30-0.97 mm in width. Just posterior to the testes are 8 cement-glands, irregularly disposed and varying in size and shape. The remainder of the male reproductive system and the layout of the female system is typical of the genus (figs 3 and 4). Mature eggs within the uterus measure  $65-75 \mu\text{m} \times 39-48 \mu\text{m}$  and possess a compact granular shell which surrounds the embryonic membrane.

These specimens are deposited in the British Museum (Natural History): B.M. (N.H.) Reg. No. 1972. 1-32.

#### 4. DISCUSSION

The history of the genus *Mediorhynchus* Van Cleave, 1916, was discussed at length by Van Cleave (1947), who regarded the genus *Empodius* Travassos, 1916, as a synonym of *Mediorhynchus*; the four species of *Empodius* described by Meyer (1932) being transferred to *Mediorhynchus*. Yamaguti (1963) appears not to have con-

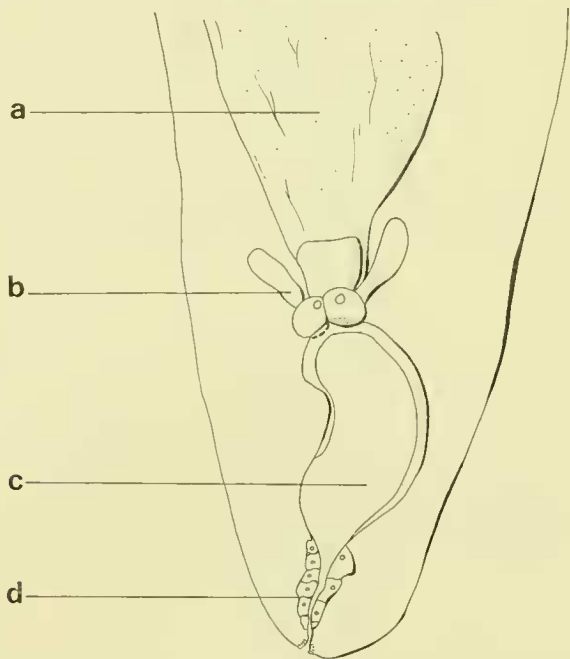


FIG. 4. Diagram of the female reproductive system of *Mediorhynchus selengensis*. a, uterine bell; b, lateral uterine pouch; c, uterus; d, vagina.

sidered the views of Van Cleave and assigned Meyer's species to the genus *Empodisma*, a new name for *Empodius*, except *E. taeniatus* (V. Linstow, 1901) which he listed under *Mediorhynchus*.

More recent authors Bullock (1969) and Byrd and Kellogg (1971) agree with Van Cleave and consider *Empodius* (= *Empodisma*) as a synonym of *Mediorhynchus*. The present writer accepts this conclusion and assigns the above-described specimens to *Mediorhynchus*.

With the exception of *Mediorhynchus garruli* Yamaguti, 1939, from *Garrulus glandarius japonicus* in Japan, the species described above may be readily differentiated from other species of the genus *Mediorhynchus* by the number and arrangement of the proboscis-hooks and spines. In *M. garruli* there are 28-30 rows of 4-5 proboscis-spines, whereas *M. selengensis* has 26-30 rows of 2-3 spines. This feature is constant in all the specimens of the latter species in which the spines are clearly visible. This difference as well as the geographical isolation of the two forms from each other, gives sufficient grounds for considering *Mediorhynchus selengensis* as a new species.

Table 1 shows some of the morphological differences to be found in species of *Mediorhynchus* recorded from African hosts.

The present material came from the intestine of *Pternistes leucoscepus*, but two specimens recovered from *Numida* sp. were also examined and these bear a marked resemblance to *M. selengensis*. In both cases, however, the proboscis is withdrawn and so positive identification is not possible without examination of further material in better condition from the same host-species and locality.

#### 5. ACKNOWLEDGMENTS

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